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Essay

On

Hepatitis:

Submitted to the medical faculty of the University of Pennsylvania, for the degree of Doctor of Medicine:

By

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of
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Hepatitis.

The accession of hepatitis or inflammation of the liver, is for the most part, more or less sudden, the patient complaining at times, of some tightness or constriction about the praecordia, accompanied with a degree of anxiety and fever for a short time, previously to the more prominent symptoms peculiar to this disease.

Hepatitis is divided into the acute and chronic form of the disease. The acute comes on with the usual phenomena of pyrexia, such as chills, rigors, flushes of the face, and finally fever, with an active full pulse, pain in the right

hypochondriac region, with a sense of weight, and uneasiness on pressure. The pain is sometimes shooting, accompanied with a sense of tension in the part, in other cases more constant, sometimes acute, at other times obtuse and deeply seated.
The pain is not always confined to the region of the liver, but extends to the breast, clavicle, and shoulder; particularly of the right side, and in that situation, it is often more acute, than in the seat of the disease. There is also some dry cough, nausea and vomiting. When there is much pulmonary irritation, it is reasonable to suppose, that the lungs have become sympathetically affected.

It is the opinion of most writers on inflammation of the liver, that the lungs suffer most, when the convex surface, and peritoneal covering of that organ are affected. Nausea and vomiting more frequently accompany this disease, when the inflammation is situated on the concave surface of the liver.
Sometimes the pain and tenderness is on the left side, and extends to the corresponding clavicle, and shoulder, which is generally the most frequent seat of the disease in women. These symptoms afford evidence that the left lobe of the liver, is diseased and inflamed.
From the great magnitude and importance of this gland in the

human economy, we should naturally infer, that should its action be morbidly increased or suspended; the whole system, by its sympathetic connexion, becomes deranged and diseased. In most instances the secretary action of the liver is increased; and it sometimes happens that the flow of bile, into the intestines, is impeded by a constriction of the ducts, or they may be obstructed in consequence of a collection of thick tenacious bile, or biliary calculi; and in this state, the bile is diffused through the general circulation, tinging the skin, conjunctiva of the eyes, and urine of a saffron colour.

During this condition, the bowels

are torpid, the discharges small, or indicating a want of biliary secretion. These symptoms are more frequently met with, when the inflammation is situated in the cecum, ascending or transverse colon. It is in this part of the bowel, that I may expect, in a [illegible] case, to find a much anxiety and debility, than occurs when it is usually disposed in gut-ris. In the commencement of this disease the stool is usually dry, in large masses, pale in colour, and in some cases the stools often betray an icterous appearance, on the bile being obstructed in its course, into the duodenum. In consequence in constriction or partial obliteration of the ductus

communicating duct, from the inflamed gland pressing upon it, and causing an approximation of its parietes; which prevents the free flow of bile, into the intestine; and thus diffuses itself through the general circulation.

During this irregular distribution of bile, and the morbid secretary action of the liver; it becomes congested, swelled, and tender to the touch, the tenderness extending all over the abdomen, so that the patient can hardly lie on either side, though he mostly lies on the affected side. Cases have occurred in which it appeared to be ushered in by cholera morbus, or a flux of bile; and it has happened that in

inflammation of the liver has existed for sometime, with little or no tenderness in the part, sallowness of the countenance, and but little disturbance in the general circulation. It has been seen to take on the appearance of pulmonary consumption, or gastritis, with pain in the calves of the legs, or a peculiar disagreeable sensation in the superior extremities.

Writers have usually agreed that there were certain symptoms, which would enable the practitioner to determine the seat of the inflammation. That if there were pulmonary symptoms, the convex surface of the liver was inflamed; if gastric disorder prevailed, the concave.

Now the perineum covered is inflamed to pain in stoop, the pulse small, quick, hard, and circulate; and the eyes and skin remain clear. In parenchyma to counteract the pain is more acute and clear, and the pulse full, strong, and hard.

Men are said to be more subject to injuries from women, which might be presumed to be in too numerous in fair less more exposed to the exciting causes in hot climate, and not to any peculiarity of constitution in the male sex practising upon to injuries. It is seen that children are not so susceptible to inflammation of the liver, as adults, though in marshy countries, hence

ivers and spleens with them, are by no means uncommon, as I have witnessed for several years.
Between the tropics, where the system is powerfully acted upon by an almost vertical sun, it runs into suppuration in a very few days, in consequence of the congested state of the sanguineous circulation in the portal circle, and of the accumulation of retained black acrid bile; in the gall bladder and pore biliaire, which keeps up a constant irritation in the liver, in addition to the inflammation, which already exists in that organ.
Hepatitis is produced by sudden vicissitudes of weather, by blows on the cranium, or region of the

liver by the excessive use of ardent spirits, and also by exposure to intense summer heat, and the damps of the night in sultry climates. In addition not only do we in temperate climates, in order increase [illegible] in the skin and liver into an excessive and morbid secretory action, which weakens and debilitates the alimentary vessels, while the chilling blast of the night, too rapidly abstracting the animal heat from the vessels on the surface, and likewise those of the vena portarum, are instantly struck torpid; the perspiratory and biliary secretions are arrested, the passage of the blood through

the liver is obstructed, and a tem-
porary congestion throughout the
portal circle is the result.
It may be demanded for certain men-
tal conditions, as violent anger, rage &c.
There is a close relationship, in the
human body, that has more influ-
ence over the temper and character
of a man, than the liver.
When that organ is in a pathological
state, like Shakespeare's Cassius, we
"see many times before our
death." The spirits are depressed
and the mind in despondence.
The countenance, is evident to
the most superficial glance. All
the various concrete this doctrine.
Fear, grief, and the other depressing
passions, even in moderation, lessen

in secretion of bile — render the skin pale or sallow, and check the perspiration. On the other hand, anger and rage, are well known to increase the biliary secretion, and their corresponding effects on the surface, are visible to every eye. Joy, hope, and what may be termed the elating passions, when in moderation, determine to the surface, and keep up a salutary flow of bile, and insensible perspiration, so essential to the healthy functions of the body." Biliary concretions are frequently formed in the gall bladder and biliary ducts, producing a source of irritation, and consequent inflammation of the liver. Scirrhosity of the liver

or neighboring parts, or an inflammation of the duodenum, extending along the ducts to the liver, and involving its tissue with inflammation.

Generally there is no difficulty in distinguishing acute hepatitis. In the early stage, it sometimes resembles pneumonic inflammation, but the pain is not so acute, and the dispnoea not so distressing and oppressive; there is also pain in the shoulder, yellow countenance, gastric uneasiness, pain on pressure, and the colour of the urine and excretions, plainly point out the seat of disease. This disease sometimes sets on the character of gastritis, but as it advances and becomes more

concentrated, its diagnostic signs are more strongly marked.

The terminations of aneurisms are various. It may terminate by resolution and hæmostasis, gangrene, inoculation, or suppuration; but in a majority of cases, if the vent in circulation is not checked in a few days, it will end in the formation of pus. If the abscess which forms in the liver should point externally, recovery may take place; but on the contrary, if internally, the case may be considered desperate, unless adhesions should fortunately take place between the liver, stomach, colon, or duodenum; into which pus, and matter discharged, and pass off.

by vomiting or stool.

Cases are recorded, where the abscess has discharged itself into the cavity of the abdomen, which has caused the patients death, from septic fever, or peritoneal inflammation. If the abscess should be situated high upon the convex surface of the liver, adhesions may take place between it and the diaphragm, and the contents of the abscess be discharged into the cavity of the thorax, producing empyema; or the lungs may be involved in the adhesions, and the pus be poured into its parenchyma, which, if in any considerable quantity, may sicken, prove fatal, from suffocation; or, in the quantity of pus

is not very great, it may be thrown off by expectoration and the sensibility increases.

Cullen and some other writers state that the pus is sometimes thrown out through the mucous tract. If the case should terminate by resolution, there is generally some critical discharge, as copious hemorrhage from the nose, or hemorrhoidal vessels; or profuse perspiration or urinary discharge with copious sediment. This salutary effort of nature to relieve herself of disease may be known by a subsidence of pain, and a general amelioration of the symptoms. Hepatitis sometimes terminates by metastasis, the inflammation being

translated to the spleen or skin, making its appearance on the surface, in the form of erysipelas, or by pain and tenderness with tumefaction in the left hypochondriac region.
It is the opinion of the present, professor of the theory and practice of medicine in the University of Pennsylvania, that inflammation of the liver, has its primary seat in the stomach, the mucous membrane of which, becoming affected, and by consent of nerves, the morbid impression is extended to the liver itself.
This deduction we presume has been drawn from a careful attention to the history, cause, symptoms, and probably also from its analogy to Cholera morbus.

the nature of hepatitis when once defined, plainly points out the treatment best suited to that disease. In this affection we have one of the most important organs in the body, suffering from acute inflammation, and which will quickly produce some organic lesion, if it is not arrested in its progress, by a prompt and vigorous course of treatment. In the commencement of acute hepatitis, active depletion is demanded; and should be pushed to a considerable degree. Venesection should be pushed to eighteen or twenty ounces; and repeated day after day, or two or three times in the twenty four hours, as long as the state of the system or pulse

demands it, regardless of any fear of debility, or the consequences arising from such depletion. In a fair this amount from a robust adult man, will generally make but little or no impression on the system. The blood should be drawn in a full and large stream, so as to produce a state of the system approaching syncope, which may probably arrest, subvert, or alter the morbid action existing in the system. Otherwise it will generally have but a very faint and transitory effect on the general circulation.

While there is general bloodletting employed, topical depletion from the region of the liver, by cups or leeches, is of primary importance

in the treatment of hepatitis.
After we have in some degree controlled arterial action, there should be a large blister applied over the right hypochondriac region, and kept discharging for a considerable length of time.
Purgatives are of the highest importance in the management of hepatitis, and those of the mercurial or saline kind should be selected.
Twelve or fifteen grains of calomel, should be taken at night, and worked off next morning by such hints of magnesia, alone, or combined with calcined magnesia, which should be continued so as to keep up a regular alvine evacuation from the bowels.
It is the practice of some physicians

after venesection, to diminish the treatment of hepatitis, by endeavouring to produce ptyalism, but this ~~the~~ would not be a good practice, for we presume their are but few practitioners of any experience, who are not duly sensible of the great difficulty there is in producing salivation, while there is any considerable degree of inflammation existing in the system.

After arterial action has in some degree been reduced, we should then with a view to removing every remnant of disease ~~yet~~ ~~xxxxx~~ remaining in the liver, resort to salivation, which should be gradually induced and kept up for sometime.

When we have succeeded in establish-

ing ptyalism, the bowels should be kept open by giving small doses of castor oil, every morning in order to carry off the acrid biliary secretions, which are always discharged in those cases; and likewise to guard the intestines from its acrid and stimulating effects, which would very much distress the patient.

The symptoms which indicate the existence of Chronic hepatitis are "sallow countenance - emaciation, irregular bowels; high coloured urine, scalding in its discharge - low spirits - often a chronic flux, with pain, fulness, or hardness in the region of the liver - evening fever, dry cough, and swelling of the ankles, are the prominent features of this deplorable

malady." (Dickson)

Chronic hepatitis appears to be almost always attendant on the diminished secretion of bile, either as resulting from that atony which takes place in an organ, that has been long stimulated into inordinate, or at least irregular action, by hot climates, or from structural derangement, generally induration &c.

It is likewise evident, that the bile is vitiated in quality, as well as deficient in quantity, and when the liver happens to be excited into an inordinate action, a larger quantity of acrid, vitiated bile, is poured into the intestines than usual, which causes a sensation of scalding in the bowels, as it passes through

tion, producing a bilious diarrhoea which subsides in a short time, the bowels resuming their former state of torpidity and inaction, which they had been in previously to the flow of bile.

The torpid state of the bowels, in consequence of the liver, admits of morbid biliary accumulations, which lurk about the duodenum, or regurgitate into the stomach, & invertes peristaltic motion, producing nausea, vomiting of green bile, sick headache, giddiness, & in an, prange. In treating the chronic obstructed, or torpid state of the liver, the increase and melioration of the biliary secretion, should always be kept in view.

Among the medicines calculated to excite and keep up a healthy secretion of bile, and a healthy perspiration, mercury stands in the first rank. When repeated doses, so as to produce and keep up a brassy taste in the mouth, for some time, holds a distinguished rank in the treatment of chronic hepatitis. It is in this disease, that mercury shows its most powerful and extended influence over the system in controlling disease; proving itself in this case, to be, what Dr. Rush pronounced it, "the Jesuit of the materia medica." It was long thought proper to combine opium and antimonial powders with it, to guard the bowels from irritation and determine to the surface.

we should endeavour to keep up a regular peristaltic motion in the intestines, and excite the mouthes of the excretory ducts of the liver, which will tend to eliminate the viscid and depraved secretions from that organ. The blue pill administered in the dose of from three to five grains three times in the twenty four hours, aided in its operation by some mild laxative, so as to produce a few evacuations during the day, will generally carry off morbid bilious accumulations which have collected about the duodenum, and obviate in a wonderful degree that mental dispondancy, and long train of nervous symptoms, so constantly attendant on that disease.

Next to mercury, there is no medicine belonging to the materia medica, that has so decided an affinity for the liver as nitric acid.

Given to the amount of one, two, or three drachms, in the twenty four hours, it has a very powerful and decided effect upon the liver, in unclogging the biliary ducts, and establishing healthy action in that organ.

But to the nitro-muriatic acid bath, I am disposed to attribute still more. One bath of the strength recommended by Dr. Scott, and Mr. Sutton (See ser. [illegible]) contains [illegible] parts of nitric and muriatic acids, which, [illegible] in some or the other form is [illegible] [illegible] warm water, [illegible]

both of medium strength for use.
In a case of chronic hepatic derange-
ment (Mr. White) who had been
labouring for a considerable time
under the more prominent symp-
toms of approaching, if not con-
firmed chronic derangement of the
liver, such as sallow countenance,
irregular bowels, - high coloured
urine, - low spirits - sometimes a
[illegible] diarrhoea, which would
last but a few days at a time,
subsiding with the most obstinate
constipation. A dull lancinating pain
in the right shoulder extending
down the arm to the elbow, fulness
and soreness in the region of
the liver, with evening fever &c.
The attending physicians, Doctors

Pope and Gay, had used the nitro-muriatic acid foot bath, with some little remedial effect, but the violence of the case seemed not to yield to this partial manner of treatment. At length it was agreed upon by them, to have a bath sufficiently large to immerse the whole body. Accordingly it was prepared of the strength above recommended. The patient was placed in it and permitted to remain in it twelve or fifteen minutes, which produced a very considerable pricking and stinging sensation, as described by the patient. After he was removed from the bath, brisk frictions were commenced, with warm dry flannels, for about twelve or fifteen min-

cuts, and the patient placed in bed. It produced a general and pleasant glow on the surface, ending in a gentle perspiration, which lasted ten or twelve hours. The bath was again resorted to the next night, and regularly continued for a week, without intermission, followed by friction with dry flannels after each bathing. No perceptible amendment was observed until after the fifth application of the bath. The change was then evident, and the effect much greater than was anticipated by the most sanguine expectations. The flow of bile was much more copious than had ever been produced by any remedy; sallowness of the countenance and

the tinge of the urine were removed, the bilious diarrhoea corrected, the bowels assuming their regular and healthy action. The burning pain in the shoulder and arm subsided, the soreness in the right hypochondriac region greatly relieved. Cutaneo-hepatic sympathy became regularly established, and the spirits and digestion regained their tone and vigor. This patient had been labouring under chronic hepatic derangement for more than two years notwithstanding which, his recovery was rapid and he has remained in the perfect enjoyment of uninterrupted health ever since.

Case 11 — Mrs. Cade, a lady of remarkable intelligence, about thir-

[illegible] has been subject to bilious [illegible] for the last eight or nine; has taken calomel pretty largely during her previous sickness, and has become so easily affected by it, that she could not take it without producing its characteristic action on the system. Having suffered several times from stomatism she resolved never to swallow another grain of calomel upon any consideration. From the length of time which she has been in subject of bilious fever, it appeared as if a mere habit with her; with her or not [illegible] by producing structural disorganization in the liver.

She had for the last eighteen months often been in pain in the right shoulder, which extended back to the scapula, and down the arm to the elbow; at times with fullness and tenderness in the right hypochondriac region. This fulness and tenderness she states was always relieved by a copious and spontaneous flow of bile. On the fourth August, she was attacked with bilious fever, which from the symptoms indicated a serious case.

From the strong objections which this patient had to calomel, and the previous and decided good effect, which the acid bath had in the case of chronic hepatitis alternating with which I have stated

I determined to try the bath in Mrs. C's case, whose skin was cold, dry, and tropic. The bath in this case was not used so exclusively as in the case abovementioned. The feet and legs, up to the knees, were bathed every night, and the hands, arms, and breast, well sponged with the same bath, which produced a very considerable degree of pricking and stinging sensation; though from the torpidity of her skin, she could bear it fifteen or twenty minutes at a time, without much complaint. After each bathing brisk frictions with dry flannels were employed, as in the case last mentioned, and with a similar effect in

producing perspiration, and establishing capillary circulation. The bath was repeated several nights in succession, and a Sudality powder administered next morning, which was sufficiently cathartic to produce three or four alvine evacuations, during the day, which were as bilious as any that I had seen produced from any cathartic whatever. On the fifth day ptyalism was produced which lasted three weeks.

As soon as salivation was fully induced, the disease gave way, and from that time, she has not had a fever; but [illegible] [illegible] [illegible] is at this time [illegible] fine health.

I had a conversation with this lad

[illegible] for disease, [illegible] months after the [illegible] relinquished, and she informed me that she had not experienced the slightest degree of soreness in the side, or pain in the shoulder or arm, but remained in the perfect enjoyment of uninterrupted health."

These cases have made a very strong impression on my mind, in favour of the nitro-muriatic acid bath in bilious diseases, accompanied with torpidity of the capillary circulation on the surface, with obstructed livers. I have seen the [illegible] used in a great many cases, in which the liver or [illegible], were deranged; and I believe without advantage to my patients.

During the treatment of chronic hepatic derangement, the most rigid adherence to the whole antiphlogistic regimen should be observed, and no article of food or drink, which is calculated to excite, irritate, or increase the arterial circulation should be permitted. The diet should be light, nutritious, and easy of digestion. The patient should wear flannel next to the skin, and observe every possible care to prevent any exposure to sudden vicissitudes of weather, and keep the feet warm and perfectly dry. She should also use the flesh-brush, with brisk friction over the right hypochondriac region, so as to excite the extreme

vessels on the surface; and by sym-
pathy, those of the vena portarum;
thus establishing cutaneo-hepatic
sympathy; which is evidently
so congenial to the healthy
functions of the body.